The Revolution in Military Affairs and its Interpreters: Implications for National and International Security Policy

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INTRODUCTION

The Gulf War initiated an intense debate in the United States and elsewhere over the existence of a "revolution in military affairs" [RMA]. Since the end of the Cold War the RMA's significance for U. S. Defense planning has become a part of the ongoing conflict over military downsizing, funding current operations, and maintaining the technological initiative for U. S. into the next century. The exchanges have become increasingly intense. The two positions, pitting advocates against doubting Thomas's, contrast a revolutionary interpretation as opposed to an evolutionary one. In the former case, the Gulf War represents the harbinger of radical changes, transforming warfare as profoundly as mechanization and the introduction of nuclear weapons.[1]

This interpretation sees the RMA as the transformation of combat through the appearance of advanced, high-accuracy, precision strike weapons, advanced systems of C3I, electronic warfare and computer simulation. Quality forces will be those equipped, organized, and trained to make use of advantages in information, penetration, and precision against an opposing force. Describing the operational environment of land warfare in the 21st century, General Gordon Sullivan, then Chief of Staff of the US Army, and his coauthor, LTC James M. Dubik, spoke of five trends:

- Greater lethality and dispersion.
- Increased volume and precision of fire.
- Better integrative technology leading to increased efficiency and effectiveness.
- Increasing ability of smaller units to create decisive results.
- Greater invisibility and increased detectability. [2]

These trends are reshaping warfare towards a joint endeavor in which synergy is achieved through simulaneity.

These forces will be able to achieve "a qualitatively different way of fighting-the ability not only to strike the enemy deep, but to see the enemy deep in real time."[3] General Gordon Sullivan, then Chief of Staff of the US Army, and his coauthor, LTC Anthony Coroalles, pointed out: "With this capability, commanders can now blend previously separate and discrete operations into a single and seamless whole."[4] This they identified as the Theater-Strategic Operations, and pointed to Operation Urgent Fury in Panama in December 1989 and Desert Storm in early 1991 as examples of modern operations by joint forces, "simultaneous employment of overwhelming combat power throughout the breadth and depth of the operational area to paralyze the enemy."[5] By linking surprise, simultaneity "in time, over time and throughout the levels of war" with an assault on the enemy's decision cycle, the Allies in the Gulf War "achieved the effect of simultaneity over the Iraqis at *all levels of war."*[6]

But the Gulf War was but a "glimpse" of these capabilities that are and will continue to reshape warfare in the Information Age. That this glimpse coincides with the end of the Cold War, a general reduction in forces, and a radical recasting of the international environment makes foresight particularly difficult. In this regard the examination of the historical record on other Revolutions in Military Affairs.

THE INFORMATION RMA AND THE HISTORICAL RECORD

What happened in the Gulf War is analogous to the use new technology and tactical techniques in the final year of World War I to overcome the linear stalemate of trench warfare. Then new techniques and weapons restored tactical maneuver and brought the prospect of breakthroughs and operational success in the theater. The German Army relied on tactical innovation, associated with the use of shock troops. The Allies, following the British lead, embraced technological innovation through the introduction of the tank and its massed employment in support of infantry assaults. At war's end the full implications of these innovations remained unclear. Theory outran existing capabilities, and military innovation in a time of reduced funding and low threat perception proved slow. Only two decades later did a synthesis of these innovations emerge as Blitzkrieg in Nazi Germany. Here the massed employment of Panzer divisions, embodying the tactical integration of tank, radio communications, and attack aviation, restored maneuver and defeated opponents who fought a positional war. By the final stages of World War the Soviet Army had achieved the organizational maturity and material support to put into practice deep operations. The mature Soviet approach to mechanized warfare had an operational focus. Tank and mechanized formations, airborne forces, and air armies conducted deep battle, deep and successive operations to achieve the destruction of the enemy force throughout the depths of its deployment and across vast continental theaters.

A similar argument can be made for a revolution in military affairs with regard to the development of carrier aviation and amphibious warfare capabilities by the United States and Japan in the inter-war years. Once again Britain had the lead in both fields at the end of World War I and for a host of geo-strategic, fiscal, organizational, and doctrinal reasons abdicated leadership in these areas to the United State and Japan, whose naval elites in preparing for an eventual confrontation in the Pacific could appreciate the radical implications of these instruments for that theater. Once again wartime experience brought a maturation of the

concepts, techniques, organizations, and instruments to bring the revolution to full maturity, as embodied by the carrier task forces and invasion fleets of 1944-1945.

CRITICS AND PRECURSORS

In each case the practitioners adapted their RMA to the requirements of a particular theater and depended upon a theater infrastructure to sustain and support its successful application. Thus, the situation after the Gulf War in this interpretation was a challenge for innovation. The revolution in military affairs being the product of the information society only being now born, the very pace and scope of change within that society provide the form and substance to an ongoing, but still undefined, military revolution.[7] Critics dismiss this interpretation of the revolution in military affairs. They portray it as a slick device the U. S. military is using to retain a disproportionate share of reduced federal spending in the aftermath of the Cold War.[8] Changes are happening but they are evolutionary and not a revolution.

The critics disagree on the interpretation of the Gulf War and its significance. Even before that conflict a debate over a new revolution in military affairs was under way. Some analysts drew on military history to identify a qualitative change in the evolution of military art and began forecasting a significant shift in the nature of war. The essence of modern war as a social phenomenon changed radically over the last century. The twentieth century began in August 1914 with the arrival of mass, industrial war and total war. The instruments of war outgrew their political utility until a major military confrontation between the two militarized bloc became unthinkable. Military power could and was used in local conflicts. In their strategic forms nuclear arsenals deterred the use of other forms of military power to resolve the core contradiction between the West and the Soviet bloc in Europe. Conventional weapons also evolved in response to new technologies and began to reshape military art. In the mid-1980s the late Brigadier Richard Simpkin, drawing heavily on Soviet military theory, made a compelling case for the need for military theory to lead technological innovation. He pointed to the further adaptation of deep battle to then emerging concepts of operational maneuver and air mobility, associated with the Soviet operational-maneuver group [OMG].[9] With the development of precision, deep strike systems associated with NATO's Follow-on Forces Attack [FOFA] concept, a new discussion of a shift in the nature of fire and maneuver emerged.[10] Writing on the eve of the Gulf War, Christopher Bellamy called attention to the changes in technology reshaping warfare.

Advanced military forces are dependent on computers, radio and other communications, and satellites, for reconnaissance, navigation, and communications. Attacking the enemy's "brain and stomach" need no longer depend on tanks racing round a flank, or aircraft pounding headquarters and industrial centres from above. The enemy's brain and nerve system can be seared and paralyzed by jamming, and various types of electromagnetic weapons. Electronic warfare, and other "soft kill" weapons are likely to usurp the position envisaged for tanks and aircraft in much of the 1930s military theory. Low-frequency weapons and application of bioelectronics may severely reduce the effectiveness and alertness of enemy forces, commanders, and political leaders.[11]

Bellamy asserted that large-scale land warfare among major powers had evolved to a dead end by the finish of the Cold War. Mass warfare will give way to local wars, fought by forces configured for such special operations. Political changes, especially the emergence of a multipolar world, will push military forces toward greater professionalism and new technologies.

WAR AND THE INFORMATION AGE

The core issue in this debate is the relationship between war and society. The unrelenting pace of technological innovation, fundamental shifts in the subject and organization of production, the vast recasting of institutions, and rapid shifts in social values raise the prospect of a self-organizing, adaptive society in a state of becoming, making the current era truly revolutionary. Military institutions must adapt to this challenge within their own societies and prepare for the emergence of new and potential conflicts within and among states and non-states. Ethno-national conflicts, ecological threats, and demographic catastrophes [mass internal migrations, famine, epidemics, and the flight of refugees affecting entire states and regions] and large-scale social pathologies with transnational dimensions [narco-trafficking, organized crime as a social movement, and terrorism] form the new matrix of threats in an unstable world. How military institutions might adapt to these challenges is at the very core of the discussion of the revolution in military affairs. It is here that technological and social change meet.

As popularized by Alvin and Heidi Toffler, post-industrial, information society has produced the potential for "third wave" warfare, which transcends industrial war in the same manner that the former negated agrarian warfare.[12] Recognizing the persistence of earlier forms of warfare and their intermingling in conflicts fought by societies at different stages of development, the Tofflers assert that revolutions in military affairs are quite rare and reflect fundamental shifts in the very organizing principles of societies. It is not to be confused with a mere evolution in military art. Military institutions, which seek to adapt and evolve gradually, will find their response inadequate, untimely, and possibly fatal. They warn:

A true revolution goes beyond that to change the game itself, including its rules, its equipment, the size and organization of the "team," their training, doctrine, tactics, and just about everything else. It does this not in one "team" but in many simultaneously. Even more important, it changes the relationship of the game to society itself.[13]

Racing toward post-industrial, society, the advanced nations of the world are in a contest to see which will reap the greatest benefits from this transformation. "The global competitive race will be won by the countries that complete their Third Wave transformation with the least amount of domestic dislocation and unrest."[14] In military terms the United States, according to this interpretation, has already made the first step to "Third Wave" warfare with the development of Air/Land Battle and advanced, high-precision, deep-strike weapons and applied them successfully in the Persian Gulf War against a regional, second-wave, industrial military.[15] Their discussion of "Third Wave" warfare asserts the need to create new instruments that can be used to prevent small conflicts from engendering major wars. Thus, the war and anti-war of their title involve the adaptation of new ways of "understanding . . . the revolutionary new linkage between knowledge, wealth and war."[16] Darwinists in their view of this race to the swift in creating an information society, the Tofflers see serious global problems arising from the very process of

creating this new order. As Alvin Toffler asserted in a recent interview, this future will have its own sources of conflict layered on top of existing sources and its own terror weapons.

Also, there will be massive dislocations. Just like at the time of the Industrial Revolution. And this current change is even bigger, moving faster and covering more of the planet. So there will be a lot of social upheaval. There are terrifying pieces in the future. Race-specific weaponry. You can zero in on ethnically linked genetic characteristics and target those who carry them. This is *genetic* warfare, a modern version of giving the Indians infected blankets. Terrifying. Absolutely.[17]

Accounts of information warfare in the popular press paint an even more dramatic image of future warfare in which the command of "cyberspace" becomes the precondition of all other successful combat actions and bring covert strikes against enemy control systems ranging from air defense and troop control to energy, transport, and national communications.[18] At the same time such accounts stress the vulnerability of advanced societies to such strikes themselves but without noting the high degree of inter-dependence and inter-penetration of such societies in the global market. Moreover, initial leadership in any advanced field of technology, even those upon which the Information Age are based, do not necessarily translate into long-term military superiority, if others can find the means to leverage their initial backwardness to an advantage. Such was the case with mechanization for Britain and with nuclear weapons for the United States. And such can be the case in the future, as was pointed on in an article devoted to future war in the information age.[19]

THE CHALLENGE OF CHANGE

While the Tofflers have been dismissed by some critics as popularizers selling futurist snake oil to the gullible, their wide-ranging forecasts and persistent emphasis on the challenge of change to human society call attention to the need to grasp the interconnections among trends in diverse and seeming unconnected fields of endeavor. As consultants, the Tofflers have made a career out of advising practical leaders in business and government of just such trends. Their recent attention to the RMA in this regard has much in common with that of Russian military forecasters, who have been trying to fathom its "law-governed patterns" [*zakonomernosti*] for almost two decades.[20] This necessity is by no means a simple or direct task but a repeated process, as frustrating as Sisyphus' forever rolling his rock up the hill.[21] The problem for soldiers and military analysts alike in the United States, Russia, and elsewhere is to deal with the challenge of change itself. While preapred to deal with immediate threats in an era of drawdown and severe fiscal contraints, contemporary militaries must look to the changes of the information age. This was the main point of a recent U. S. Army publication, *Army Focus 94, Force XXI: America's Army in the 21st Century*.[22]

General Gordon R. Sullivan and LTC Anthony M. Coroalles have focused on this aspect of the challenge of change, specifically, its accelerating pace, qualitative character, and complexity. By invoking a metaphor from the American Civil War, "seeing the elephant," they have sought to draw attention to the "complexity, ambiguity, and uncertainty of tomorrow's battlefield."[23] On the military-technical side of the RMA the challenge of change is clearly and explicitly being

addressed in the US Armed Forces by an attempt to adapt military art [doctrine in US military usage] to the Information Warfare.

Simply stated, Information Age technology can fundamentally change the way that we prepare for and conduct military operations of all types. We believe that information technologies can enable the Army to achieve quantum improvements in speed and precision - enhancing tempo, lethality, and survivability to new levels. By being able to integrate operations more effectively, we will achieve unprecedented and overwhelming degree of simultaneity in the Joint Force. Our goal is to use the power of information to leverage the power of our people, so as to change how we develop, sustain, and constantly improve the Army.[24]

The authors go on to outline an approach to making change happen that stresses understanding the environment, articulating vision, building a consensus for change, creating a learning organization, fostering innovation and growth, establishing a convincing demonstration of value, and implementing change by providing the resource to carry it through.[25] They discuss those programs now under way implement change and stress the impact of down-sizing, a new strategic environment, redeployment to the continental United States and the emergence of new missions on this process of military-technological change. Ultimately, success in meeting the challenge of change depends also on continuity, "the self-ordering nature of our shared values" built around a military professionalism based upon "faithful service to the nation."[26]

CONCLUSION

The Revolution in Military Affairs has deep roots in the changes that are rapidly recasting advanced industrial societies into Information Societies. The relationship of military institutions to the state and society will be as profoundly changed as that which transpired in the shift from agrarian to industrial society. Moreover, the global nature of the Information Age with its high degree of inter-dependence and inter-penetration will change the international system and recast the very meaning of threat. The consequences of uneven development, which served as so great a source of conflict among various states at different stages of industrial development and between the industrial powers and the agrarian-colonial regions can only become more complex in the case of Information Societies and those at lower stages of development. Successful adaptation of national power in all its forms to information operations will depend in good measure on the impact of these developments on the nation and the international environment. But this is clearly a matter also larger systemic adaptation and not anarchy, bordering on chaos. In this regard complexity theory may hold out much promise is addressing the adaptation of security systems and their interconnections and feedback mechanisms with increasingly interdependent socio-economic and political systems.[27]

The end of the Cold War still holds out the prospect that nations may find good reasons to cooperate in employing these new means to prevent conflicts, or, if not prevented, to limit their escalation, and assist in their resolution. But this will require that statesmen likewise "see the elephant." In the realm of politics and political-economy the challenge of change is even more evident and the need for foresight to guide military-political development all the more imperative. Democratic and open societies have the greatest chance of finding common ground

to address the future and seek the means to enhance peace and stability, even as they meet the challenge of change.

Endnotes

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